Community Protection and Hazardous Waste Reduction Initiative
Pilot Project Proposal for Organic Solvent Waste

INTRODUCTION:

The Community Protection and Hazardous Waste Reduction (Initiative) is a two-year effort that was established and funded through a Budget Change Proposal that was approved for the 2015/16 and 2016/17 fiscal years. The Initiative is designed to effectively leverage DTSC's goal of 50 percent reduction of hazardous waste generated in California and disposed into hazardous waste landfills by 2025. Under the Initiative, DTSC is to select up to three pilot-scale projects to reduce hazardous wastes that are generated in significant quantities, can pose substantial risks or hazards to human health or the environment, and are treated, managed, or disposed in communities that are disproportionately burdened by multiple sources of pollution. To assist in the implementation of the Initiative, an Advisory Committee has been formed, comprised of individuals with relevant and diverse expertise in issues related to hazardous waste, hazardous waste management, and the impacts of hazardous wastes on Californians.

BACKGROUND:

The California Department of Toxic Substances Control (DTSC) regulates the generation, handling, transportation, storage, treatment and disposal of hazardous waste in the State. Organic solvent waste accounts for roughly five percent of California's hazardous waste. This waste is generated from many industrial and commercial processes, such as parts cleaning and degreasing, paint stripping, dry cleaning, and chemical and pharmaceutical manufacturing, then shipped under hazardous waste manifest to offsite treatment, storage or disposal facilities. In 2014 alone, approximately 113,300 tons[1] of organic solvent waste was generated in California.

Although the industrial uses of organic solvents are varied, the issues presented by the use of solvents are similar regardless of the industry. In general, organic solvents have a high potential to adversely impact human health. The relatively high vapor pressure of many organic solvents can cause vapors to off gas, even at low temperatures, causing acute and chronic health conditions.

[1] According to internally validated data from DTSC's Hazardous Waste Tracking System (HWTS), in 2014 the following hazardous wastes were generated in the State, based on manifest information: California Waste Code (CWC) 214 – *Unspecified Solvent Mixture* = 39,456 tons; CWC 133 – *Aqueous Solutions with Greater than 10% Organic Residues* = 24,701 tons; CWC 343 – *Unspecified Organic Liquid Mixture* = 18,867 tons; CWC 331 – *Off-Specification, Aged, Surplus Organics* = 10,980 tons; CWC 212 – *Oxygenated Solvents* = 16,003 tons; CWC 211 – *Halogenated Solvents* = 1,673 tons; and CWC 213 – *Hydrocarbon Solvents* = 1,630 tons.

Organic solvents are also common environmental contaminants. The high solubility of many organic solvents can result in widespread groundwater contamination when solvents are introduced into the environment. Organic solvents can find their way into the environment from industrial leaks or spills, or from years of improper handling and management.

Solvents are a highly recoverable waste, and solvent recovery practices are increasing. However, many users of solvents, especially small businesses, have yet to incorporate these techniques. This pilot project would build on efforts undertaken to date by DTSC and other interested parties to reduce the generation and offsite management of organic solvent waste.

PILOT PROJECT GOALS AND OBJECTIVES:

The broad goals and objectives of this pilot project are to achieve the following:

- Gather all available information related to the evaluation of waste reduction opportunities and barriers, including:
  - Technologies and practices to reduce generation
  - Regulatory and legal tools
  - Economic tools and factors
  - Environmental factors
- Identify and evaluate one or more substantive waste reduction proposals.
- Develop the following work products:
  - A description of preferred hazardous waste management practices, programs, incentives, requirements, prohibitions, or other measures necessary to reduce the generation and disposal of organic solvent waste;
  - A baseline of state-wide organic solvent waste disposal, management,[2] and generation data, from which reductions can be measured;
  - A list of those waste reduction measures that have been determined to be technically feasible, an assessment of the potential for the amount of waste reduction that might be achieved if implemented, costs, economic impacts, and an evaluation of factors that could influence the achievement of those reductions for organic solvent waste;
  - Proposal of long term numeric goals for the reduction of organic solvent waste, including interim targets and milestones, costs, economic impacts, and the recommendations needed to achieve those milestones and the long-term numeric goals; and
  - Recommendations of the most cost-effective strategies to carry out the identified reductions.

[2] 22 CCR § 66260.10 defines "management" or "hazardous waste management" as "the handling, storage, transportation, processing, treatment, recovery, recycling, transfer and disposal of hazardous waste."

PILOT PROJECT SUMMARY:

To achieve the goals and objectives stated above, a pilot project focused on organic solvent waste (e.g. halogenated solvents, oxygenated solvents, hydrocarbon solvents, unspecified solvent mix, and off-specification, aged, or surplus organics) would entail; (1) data gathering; (2) identification and exploring implementation of pilot-scale solvent recovery practices; and (3) analyzing the available data and making recommendations.

Data Gathering:

The data gathering portion of this pilot project would involve collecting directly, and through solicitation from the affected California organic solvent generators, the solvent industry at large, other governmental agencies (local, state, federal as well as other nations), academia, affected communities and community advocates, and other interested stakeholders, all available data related to hazardous waste generation and management at solvent manufacturing facilities.

Identification and Evaluation of Substantive Proposals:

This portion of the project would involve the solicitation and evaluation of substantive waste reduction proposals. The types of proposals to be considered would include not only California industry identified or sponsored proposals, but also proposals that could require DTSC to seek participation or partnerships, or the securing of additional financial resources. Proposals would need to be identified and selected within a time frame during the Initiative that allows for the proposal to be initiated and its progress evaluated, although they would not need to be fully completed within the planned time frame of the Initiative.

Analysis and Recommendations:

At the conclusion of the Initiative, DTSC staff will draft a report summarizing the information gathered, progress made, and findings and recommendations as they relate to the stated goals and objectives. The final report will include a baseline analysis of the state-wide volume of organic solvent waste generated. The report may include recommendations to propose new regulations, develop or monetize incentive programs, or other methods of reducing the generation of organic solvent wastes in California. Finally, the report will include a set of recommended actions that DTSC and others might consider as next steps to pursue and implement waste reduction efforts, and to reduce impacts to communities.

By June 30, 2017, the final report and recommendations will be sent to the Secretary of the California Environmental Protection Agency and to the relevant legislative committees with jurisdiction over the regulation of hazardous waste.